Cyrel® Packaging Graphics Products

A Guide to Handling, Cleaning and Storing Cyrel® Photopolymer Printing Plates

The proper care of Cyrel® photopolymer printing plates will optimize plate life and minimize problems in the pressroom.

Cyrel® Plate/Ink Compatibility Guide for Aqueous/Solvent-Based Inks

	Pure Solvent	Maximum % in Normal Propyl Alcohol Cosolvent*
Water	Yes	100
Amines (pH adjust)		
28% Ammonium Hydroxide	Yes	N/A
2-Amino-2-Methyl-1-Propanol	Yes	N/A
Morpholine	No	N/A
Monoethanol Amine	Yes	N/A
Diethanol Amine	Yes	N/A
Triethanol Amine	Yes	N/A
Alcohol/Glycols		
Methyl Alcohol	No	50
Ethyl Alcohol	Yes	100
Isopropyl Alcohol	Yes	100
Normal Propyl Alcohol	Yes	—
Normal Butyl Alcohol	Yes	100
Octyl Alcohol	No	5
Benzyl Alcohol	No	5
Ethylene Glycol	Yes	100
Propylene Glycol	Yes	100
Diethylene Glycol	Yes	100
Dipropylene Glycol	Yes	100
Triethylene Glycol	Yes	100
Glycerine	Yes	100
Esters[1]		
Ethyl Acetate	No	20
Isopropyl Acetate	No	20
Normal Propyl Acetate	No	20
Ketones[1]		
Acetone	No	5
Methyl Ethyl Ketone	No	5
Methyl Isobutyl Ketone	No	5
Aliphatic/Aromatic Hydrocarbons[1,2]		
Heptane	No	5
Hexane	No	5
Cyclohexane	No	—
VM&P Naphtha (3% Aromatic)	No	5
Lactol Spirits 9300 (9% Aromatic)	No	5
Lactol Spirits 9500 (14% Aromatic)	No	3
Lactol Spirits 45 (19% Aromatic)	No	3
Lactol Spirits 50 (32% Aromatic)	No	3
Benzene	No	1
Toluene	No	1
Xylene	No	1
Ethyl Benzene	No	1
Glycol Ethers		
Butyl Cellosolve	No	3
Ethyl Cellosolve	No	30
Propasol P	No	30
Carbitol	No	30

[1] For extended run lengths, lower maximum percentages are recommended for best results.
[2] This category includes petroleum/paraffinic distillates.
* Percentages are based on the solvent portion of the ink only.

Plate/Solvent Compatibility

Once the plate is properly made, carefully mounted and ready for printing, printing inks, extenders and plate cleaners must be carefully selected to achieve the best results. Inks, additives and cleaners may contain limited concentrations of active solvents, such as acetates, heptane or naphtha. These solvents, and several others, are incompatible with photopolymer printing plates above certain levels. They may cause swelling, or in some cases, shrinking, cracking or softening of the plate. Also, UV inks may contain aggressive monomers which attack the plate, much like aggressive solvents. The Cyrel® Plate/Ink Compatibility Guide is included in this pamphlet for easy reference. A copy can also be found in the Cyrel® Process of Use Manual.

Plate Demounting

The proper demounting procedure is important to ensure the plates are in good condition for future use. A Cyrel® plate demounting tool, or other blunt instrument (such as a stainless steel spatula/spreader), can be used to demount the plate. No sharp objects or knives should be used.

- Hold the tool at a 45° angle upward from the horizontal.
- Starting at the edge of the mounted plate, insert the corner of the tool to a 1/8″ to 1/4″ depth between the stickyback and the polyester support of the plate.
- Draw the tool smoothly across. This will give a free flap of the plate to grasp and peel the plate from the stickybacked cylinder.
- If the plate was properly prepared when mounted, by wiping the back with a varnish solution, demounting should not be a problem. However, if stickyback is still aggressive, a small amount of alcohol applied at the contact point between the stickyback and mounting tape will assist in removal.

It is important not to use the tool as a pry bar to remove the plate from the cylinder. If this happens, the edge of the plate will have a wrinkled wavy

appearance and will be impossible to hold down to the cylinder when the plate is remounted.

Plate Cleaning

After printing, Cyrel® plates should be cleaned immediately and thoroughly of ink with a soft, natural bristle brush and compatible cleaner and allowed to dry before storage. Inks should not be allowed to dry on the surface of the plate, since they become difficult to remove and may require hard scrubbing. This could lead to surface damage. The following can be used to properly clean Cyrel® plates.

Solvent Inks

- Undiluted alcohol
- Solvent blends compatible with the plate (see Compatibility Guide).

Water-Based Inks

- Alkaline water with a small amount of mild, liquid detergent/handsoap.
- Cyrel® Flexo Super Cleaner

Ultraviolet Inks

- Undiluted alcohol
- Solvent blends compatible with the plate (see Compatibility Guide).

As mentioned before, make certain that cleanup solvents are compatible with the plate. Test a small sample of the plate material by immersing it in the solvent for 24 hours and then measure the thickness. Aggressive solvents, such as acetates, heptane, or naphtha should not be used for cleaning plates. Above certain levels, these can cause damage to the plate surface and/or swell the plate.

After brushing the plates, blot or blow them dry. Use a lint-free towel or cloth. Do not rub. Plates should always be thoroughly dried before storage.

Plate Staging and Storage

When plates are mounted and staged for press runs or cleaning, wrap plates in black poly with the edges sealed to protect against whitelight and ozone. Saran™ wrap can also be used to minimize ozone attack;

however, if whitelight is present, the plates should also be draped with black poly.

The procedures listed below should be followed to properly store the carefully cleaned and dried Cyrel® processed plates:

- The storage area temperature may range between 40-100°F (4-38°C).
- Humidity does not usually affect plate life, and no special precautions are necessary in the storage area.
- Do not store near heat sources, heating vents, etc.
- Plates must be protected from UV light, whitelight, fluorescent light, window light and sunlight. When storing flat, protect the plates from these lighting sources by storing the plates in black poly bags and sealing them. A UV filter material can be used to protect light from windows or room lighting.
- If plates are stored in stacks, they should be interleaved with paper or foam from raw material packing. Do not stack over 6″ high.
- Plates stored on cylinders should be wrapped with an opaque medium, such as black poly, with the edges sealed.

Naturally occurring ozone is produced by electrical discharge, such as lightning, and by the action of intense sunlight. Protect plates from ozone by storing them away from power stations, press drives, corona treating units and other sources of electrical discharge. Ozone attack is most pronounced when the plate is under stress, such as when mounted and/or inked. The following steps can minimize ozone damage to Cyrel® plates. All of them may be required when ozone levels are very high.

1. Use ozone-resistant plate material.
2. Follow platemaking techniques, i.e., proper exposure times, drying procedures.
3. Clean and store plates properly.
4. Use compatible inks/solvents/plate cleaners.
5. Apply protective treatments when conditions are severe.

(continued on back)

Plate Staging and Storage *(continued)*

- When ozone conditions are especially severe (in summer months or when known ozone generators are present), finished plates could be treated with spray protectant, such as ArmorAll™, STP Son-of-a-Gun™, etc. These solutions are sprayed on the cleaned and dried plates to form a protective layer before storage. Care should be taken, however, not to allow this treatment to be transferred to the back of the plate. This may cause plate lifting issues. Before printing, we recommend that the plate be thoroughly wiped with a compatible cleaning solution. After printing, the plate should be cleaned and then coated with the spray again.

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